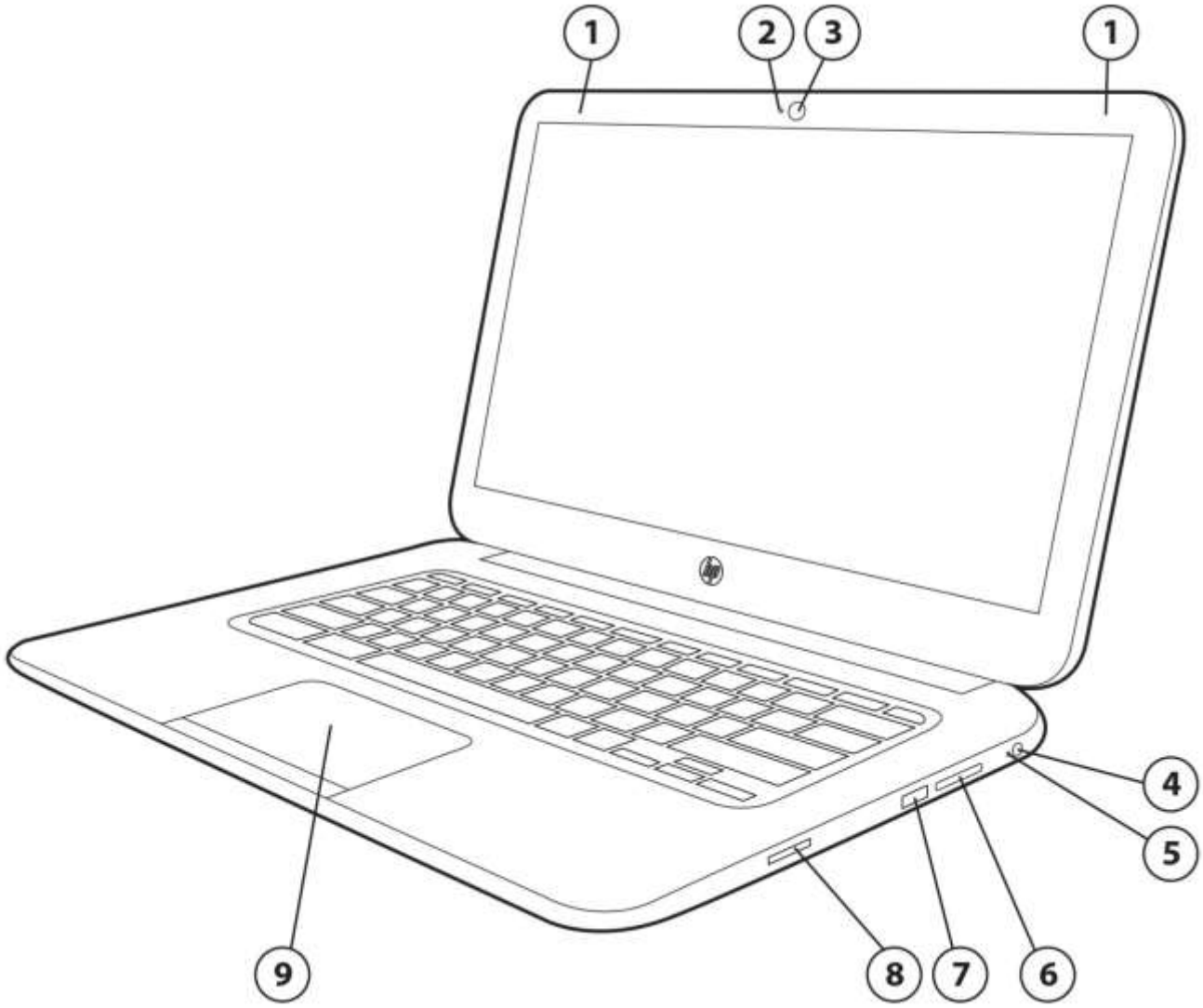
Overview

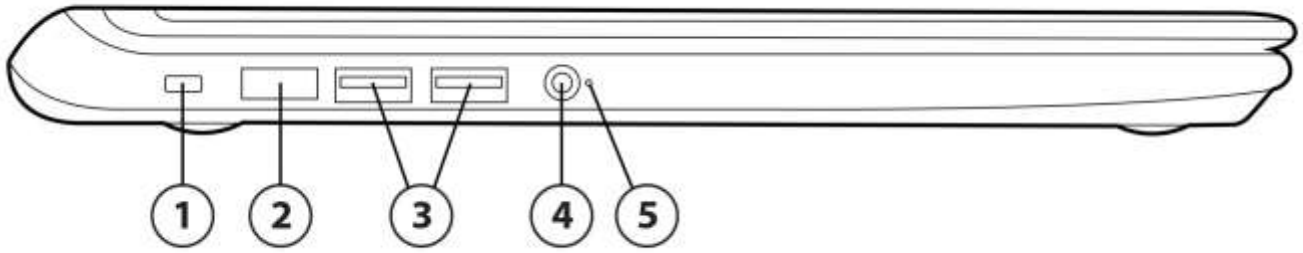
HP Chromebook14 G1



Front/Right Image

1. WLAN antennas
2. Webcam light
3. Webcam
4. Power connector
5. AC adapter light
6. Memory card reader
7. USB 2.0 port
8. SIM slot
9. TouchPad zone

Overview



Left Image

1. Security cable slot
2. HDMI port
3. USB 3.0 ports (2)
4. Headphone-out/microphone-in combo
5. Power state LED indicator

AT A GLANCE

- Google Chrome OS
- Provides cloud computing functionality where you can access your files, applications, documents and profiles*
- Intel® HD Graphics
- Full-size, Island-style Chrome OS keyboard
- HDMI port for connecting to high-resolution displays
- Integrated HD webcam, integrated microphone
- Intel 802.11 a/b/g/n (2x2) wireless LAN module
- 14.0” diagonal LED-backlit HD BrightView display

NOTE: See important legal disclosures for all listed specs in their respective features sections.

Features

OPERATING SYSTEM

Preinstalled Chrome OS

PROCESSOR

Intel® Celeron® 2955U 1(1.4 GHz, 2 MB L3 cache, 2 cores, 15W)*

* Multi-Core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. 64-bit computing on Intel® architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers, and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel® 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel's numbering is not a measurement of higher performance.

CHIPSET

Intel Lynx Point-LP processor controller hub (PCH), ULT, soldered on circuit (SoC), integrated in MCP

GRAPHICS

Integrated: Intel® HD* Graphics
Support for HD decode and HDMI

* High definition (HD) content is required to view high-definition images.

DISPLAY

Internal
14.0" diagonal HD* WLED BrightView (1366x768) flat (3.6mm) SVA
External
Up to 32-bit per pixel color depth
HDMI
1.4b port supports up to 1080p, 1920 x 1080 at 60Hz

* High definition (HD) content is required to view high-definition images.

NOTE: Resolutions are dependent upon monitor capability, and resolution and color depth settings.

STORAGE AND DRIVES

Primary Storage Bay

Solid State Drive
16 GB or 32 GB M.2

Features

Cloud Storage
Store up to 100 GB with Google Cloud Storage*

** This offer is tied to this device and is non-transferable. If this device is returned, the extra storage will be revoked. In order to redeem this offer, you will need to be on Chrome OS 23 or later. Internet access is required and not included. Additional information about storage plan refunds, renewals, cancellations and expiration is available at the Google website: https://support.google.com/chromebook/answer/2703646?hl=en

MEMORY

Standard
DDR3L SDRAM (1600 MHz)
Two SODIMM slots supporting dual-channel memory
Standard memory up to 4096 MB (2 DIMMs)*
Maximum
Upgradeable to 4096 MB with optional SODIMMs in slots 1 and 2
Dual-channel
Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

*Maximum memory speed supported by the system may be 1333 MHz or 1066 MHz.
NOTE: Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed.

NETWORKING/COMMUNICATIONS

Broadband Wireless (WWAN)
HP cr3114 HSPA+ Mobile Broadband Module*

Wireless LAN (WLAN)
Atheros AR9462 802.11a/b/g/n (2x2) Wi-Fi + BT 4.0 Combo Adapter*

* Wireless Broadband use requires separately purchased service contract. Check with service provider for coverage and availability in your area. Sold separately or as an optional feature.
** Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited.

AUDIO/MULTIMEDIA

Audio
High Definition Audio support
Stereo speakers
Headphone / Microphone Combo Jack
One digital microphone with echo cancellation and noise suppression appropriate software

Webcam

Features

HP TrueVision HD slim webcamera*

- Supports videoconferencing and still image capture
- Improved quality for video streaming and still image capture (1280x720 resolution)
- Up to 30 frames/sec
- Fixed focus lens

* Internet access is required and not included.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard
The island-style Chrome OS keyboard features full-pitch key layout with features such as the isolated inverted-T cursor control keys, editing keys, both left and right control and alt keys, and 12 function keys. International key layouts are available. Other features include hotkeys for instant access to, brightness, etc. 19-mm x 19-mm key pitch (center-to-center spacing), 2.2-mm stroke, comfort-dished keycaps, and bright key legends for improved visibility in low light conditions.

Pointing Devices
Clickpad with multi-touch gestures support

Buttons and Function Keys
Power button

SOFTWARE AND SECURITY

Preinstalled Software
Chrome OS with default set of apps, HP registration app

Security
TPM 1.2 Embedded Security Chip*
Security Cable Lock (Slot) (lock must be purchased separately)
Sign-on with your Google credentials

For more information on HP security solutions refer to: http://www.hp.com/go/security.

POWER

Power Supply
External 65W HP AC adapter (not available in India)
External 65W EM HP AC adapter (only available in India)
External 65W HP Slim Travel AC adapter (only available in India)

Power cord included is 1.0 m (+/- 0.1 m).

Primary Battery

Features

HP 4-cell (51 WHr) Li-Ion battery

Power Conservation
Energy Star compliant

WEIGHTS & DIMENSIONS

Weight
Starting at 4.08 lb (1.85 kg)

Dimensions (w x d x h)
13.56 x 9.44 x 0.86 in
34.44 x 23.98 x 2.16 cm

NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 4-cell battery, solid state drive, and 21w GB memory.

PORTS/SLOTS

Ports
HDMI v1.4b* - One
Headphone / Microphone in Combo - One
Power Connector – One
USB 3.0 – Two (left side)
USB 2.0 – One (right side)

HP Multi-Format Digital Media Reader
Supports SD/SDHC/SDXC

* HDMI cable sold separately.

SERVICE AND SUPPORT

HP Services offers limited 1-year warranty options depending on country;
1-year limited warranty on primary battery. On-site service and warranty upgrades are also available. HP Care Pack Services*,** extend service contracts beyond the standard warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: http://www.hp.com/go/lookuptool. Additional HP Care Pack Services*,** information by product is available at: www.hp.com/go/cpc.

* Sold separately or as an optional feature.
** Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit www.hp.com/go/cpc.
NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.
http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp

Features

Technical Specifications

SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	**Nominal Operating Voltage**	18.5/19.5V
	Max Operating Power	< 65 W
Temperature	**Operating**	41° to 95° F (5° to 35° C)
	Non-operating	-4° to 140° F (-20° to 60° C)
Relative Humidity	**Operating**	10% to 90%, non-condensing
	Non-operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
Shock	**Operating**	40 G, 2 ms, half-sine
	Non-operating	200 G, 2 ms, half-sine
Random Vibration	**Operating**	0.75 grms
	Non-operating	1.50 grms
Altitude (unpressurized)	**Operating**	-50 to 10,000 ft (-15.24 to 3,048 m)
	Non-operating	-50 to 40,000 ft (-15.24 to 12,192 m)
Planned Industry Standard Certifications	**UL**	Yes
	CSA	Yes
	FCC Compliance	Yes
	ENERGY STAR®	Select models*
	EPEAT	Registered Silver in United States**
	ICES	Yes
	Australia / NZ A-Tick Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	KC	Yes
	BSMI	Yes
	CE Marking Compliance	Yes
	BNCI or BELUS	Yes
	CIT	Yes
	GOST	Yes
	Saudi Arabian Compliance (ICCP)	Yes
	SABS	Yes
	UKRSERTCOMPUTER	Yes

* Configurations of the HP Chromebook14 that are ENERGY STAR qualified are identified as HP Chromebook14 ENERGY STAR on HP websites and on www.energystar.gov.
** EPEAT registration varies by country. See www.epeat.net for registration status by country.
EPEAT status listed above applies to U.S.

For accessibility information on HP products, please visit: http://www.hp.com/accessibility.

DISPLAY

Technical Specifications

14.0-inch LED HD (1366 x 768) BrightView	**Dimensions** (W x H)	12.74 x 7.56 in (32.4 x 19.2 cm)	
	Diagonal Size	14.0 in (35.6cm)	
	Surface Treatment	BrightView	
	Contrast Ratio	400:1 (typical)	
	Refresh Rate	60 Hz	
	Brightness	200 nit (typical)	
	Pixel Resolution	**Pitch**	0.227 mm
		Format	1366 x 768
		Configuration	RGB Stripe
	Backlight	LED	
	PPI	112 ppi	
	Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)	

STORAGE AND DRIVES

Internal Storage			
SATA 6Gb/s 16 GB, 2242 M.2 Solid State Drive	**Drive Weight**	6 Grams max.	
	Capacity	16 GB	
	Height	0.138 in (3.65mm)	
	Width	0.866 in (22 mm)	
	Interface	M.2 SATA Gen6 (6 Gb/s)	
	Performance	**Maximum Sequential Read**	**Maximum Sequential Write**
		Up to 210 MB/s	Up to 30 MB/s
	Logical Blocks	31,277,232	
	Operating Temperature	32° to 158°F (0° to 70°C) [case temp]	
	Features	ATA Security; ATA-8, SATA 3.0; DIPM; TRIM	
SATA 6Gb/s 32 GB, 2242 M.2 Solid State Drive	**Drive Weight**	Up to 10 Grams	
	Capacity	32 GB	
	Height	0.138 in (3.5mm)	
	Width	0.866 in (22 mm)	
	Interface	M.2 SATA Gen6 (6 Gb/s)	
	Performance	**Maximum Sequential Read**	**Maximum Sequential Write**
		Up to 380 MB/s	Up to 70 MB/s

Technical Specifications

	Logical Blocks	62,533,296
	Operating Temperature	32° to 158°F (0° to 70°C) [case temp]
	Features	ATA Security; ATA-8, SATA 3.0; DIPM; TRIM

NETWORKING/COMMUNICATIONS

HP cr3114 HSPA+ Mobile Broadband* Module	**Technology/Operating Bands**	Modes: WCDMA/HSDPA/HSUPA/HSPA+/AWS/GSM/EDGE/GPRS Penta-band WCDMA/HSDPA/HSUPA/HSPA+/AWS: 850/900/1900/2100/AWS MHz GSM/GPRS/EDGE: 850/900/1800/1900 MHz
	Wireless Protocol Standards	GSM/GPRS/EDGE: Class B, Multi-slot class 33, coding schemes CS1 - CS4 and MSC1 - MSC9. UMTS/WCDMA: Release 99 and Release 7 Advanced Receiver Type 3i
	GPS	GPS Standalone, A-GPS: L1 (Internet- and Network assisted)
	Wireless Parametric Standards	Complies with 3GPP specifications
	Maximum Data Rates	GPRS/EDGE: Multi-slot Class 33, Class B WCDMA PS: UL (384 kbps) / DL (384 kbps) UL/DL HSPA: UL (5.76 Mbps)/ DL (7.2 Mbps) UL/DL HSPA+: UL (5.76 Mbps)/ DL (21Mbps)
	Maximum Output Power	WCDMA/HSPA/HSPA+ 2100/1900/900/850/AWS MHz: +24dBm (Power Class 3) GPRS 1900/1800 MHz: +30dBm (Power Class 1) GPRS 900/850 MHz: +33dBm (Power Class 4) EDGE 1900/1800 MHz: +26dBm (Power Class E2) EDGE 900/850 MHz: +27dBm (Power Class E2)
	Maximum Power Consumption	2500mA (peak); 600mA (average)
	Power Consumption, Sleep Mode	3.6 mA
	Power Management	USB selective suspend, Connected Standby

Technical Specifications

		Integrated notebook wireless button
	Antenna Type	Dual high efficiency 5 band antennae with spatial diversity, mounted in the display enclosure
	Form Factor	M.2 Socket 2, USB 2.0 interface high speed
	Weight	< 6g

* Mobile Broadband is an optional feature sold separately or as an add on feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors.

Atheros AR9462 802.11abgn (2x2) Wi-Fi + BT 4.0 Combo Adapter*	**Wireless LAN Standards**	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program
	Frequency Band	802.11b/g/n: 2.4 GHz and 5 GHz 802.11a/n: 4.9 - 4.95 GHz (Japan) 5.15 - 5.25 GHz 5.25 - 5.35 GHz 5.47 - 5.725 GHz 5.825 - 5.850 GHz
	Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: card will support rates for NSS=1 and NSS=2 for RX and TX for 20 and 40 MHz channels. Short and long guard interval shall be supported.
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST.
	Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
	Network Architecture	Ad-hoc (Peer to Peer)
	Models	Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power[2]	13.5 dBm , nominal

Technical Specifications

	Power Consumption	Idle associated: 250 mW Idle unassociated: 100 mW Radio disabled: 75mW Transmit: 2.0 W (max) Receive: 1.6 W (max)	
	Power Management	ACPI compliant power management 802.11 compliant power saving mode	
	Receiver Sensitivity[3]	300 Mbps: -66 dBm, 54 Mbps: -74 dBm, 11 Mbps: -88 dBm , 1 Mbps: -95 dBm	
	Antenna Type	Two embedded, high efficiency dual band antennae with spatial diversity, mounted in the display enclosure	
	Form Factor	PCI-Express Half-MiniCard 1.2	
	Weight	0.013 lb (6 g)	
	Dimensions	0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)	
	Operating Voltage	3.3v +/- 10%	
	Temperature	Operating Non-operating	14° to 158° F (-10° to 70° C) -40° to 176° F (-40° to 80° C)
	Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
	Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
	LED Activity	LED Off - Radio OFF; Solid LED On - Radio ON	

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

Bluetooth 4.0 Wireless Technology	**Bluetooth Specification**	2.1+EDR, 3.0+HS, 4.0 Compliant
	Dimensions	1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 mm)
	Frequency Band	2402 to 2480 MHz
	Number of Available Channels	79 (1 MHz) available channels
	Data Rates and Throughput	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric
	Transmit Power	Max 4 dBm (Bluetooth Class II)
	Receiver Sensitivity	Better than -80 dBM at 0.1 % raw bit error rate
	Power Consumption	Average 230mW Sleep <1 mW
	Antenna	Internally integrated within module

Technical Specifications

Range	Up to 33 ft (10 m)	
Electrical Interface	USB 2.0 compliant	
Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves	
Security	Full support of Bluetooth Security Provisions	
Power Management	USB Bus Support	
	Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff	
Certifications	All necessary regulatory approvals for supported countries, including:	
	FCC (47 CFR) Part 15C, Section 15.247 & 15.249	
	ETS 300 328, ETS 300 826	
	Low Voltage Directive IEC950	
	UL, CSA, and CE Mark	
Temperature	Operating	-4° to 158° F (-20° to 70° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90%
	Non-operating	5% to 95%
Altitude	Operating	15,000 ft (4,572 m)
	Non-operating	40,000 ft (12,192 m)
Bluetooth Profiles Supported	Serial Port Profile (SPP)	
	Service Discovery Application Profile (SDAP)	
	Dial-Up Networking (DUN)	
	Generic Object Exchange Profile (GOEP)	
	Object Push Profile (OPP)	
	File Transfer Profile (FTP)	
	Synchronization Profile (SYNC)	
	Hard Copy Cable Replacement (HCRP)	
	Personal Area Networking Profile (PAN)	
	Human Interface Device Profile (HID)	
	FAX Profile (FAX)	
	Basic Imaging Profile (BIP)	
	Headset Profile (HSP)	
	Hands Free Profile (HFP)	
	Advanced Audio Distribution Profile (A2DP)	

* Wireless access point and internet service required. Availability of public wireless access points limited.

AUDIO/MULTIMEDIA

Technical Specifications

Audio		
Hardware	**Implementation**	HD Audio
	Volume Controls	Up, down, and mute function keys
	Full Duplex	Yes
	Microphone In	Stereo
	Headphone/Line Out	Stereo
	Integrated Microphone	Yes
Audio Output Quality	**Frequency Response**	10 Hz ~ 22 KHz
	Signal to Noise Ratio	Typical 95 dB FSA (DAC)
	Total Harmonic Distortion	Typical -88 dB FS (DAC)
	Noise Floor	-110 dB
	Play/Record Sampling Rate(s)	Up to 192 KHz
	DAC	24 bits
	ADC	24 bits
Integrated Altec Lansing Stereo Speakers	**Power Rating**	1.5 W
	Impedance	4 ohms
Multimedia		
Integrated HD Webcam	Supports videoconferencing and still image capture Improved quality for video streaming and still image capture (1280x720 resolution) Up to 30 frames/sec Fixed focus lens	

POWER

HP 65W AC Adapter	**Dimensions**	4.21 x 1.85 x 1.18 in (10.7 x 4.7 x 3.0 cm)	
	Weight	0.62 lb (280 g)	
	Input	100 to 240 VAC	
		Input Efficiency	87% min at 115 VAC
		Input frequency range	47 to 63 Hz
		Input AC current	1.7 A at 90 VAC
	Output	Output power	65W
		DC output	18.5/19.5V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	<11A, Over voltage protection- 29V max automatic shutdown
	Connector	3 pin/grounded, mates with interchangeable cords	
	Environmental Design	Operating temperature	41° to 95° F (5° to 35° C)

Technical Specifications

		Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
		Altitude	0 to 5,000 ft (0 to 1,524 m)
		Humidity	20% to 95%
		Storage Humidity	10% to 95%
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives; Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF - over 200,000 hours at 25°C ambient condition.	
4-Cell (51 WHr) Lithium-Ion battery	**Dimensions** (h x w x l)	3.71 x 68.2 x 110.3mm	
	Cells/Type	4-cells/Lithium-Ion	
	Voltage	Nominal	7.5 V
	Energy e	Watt-hour capacity	51 WHr
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 140° F (-10° to 60° C)
		Non-operating	-4° to 140° F (-20° to 60° C)
	Battery Re-Charge Time	System in OFF or Standby Mode	2.5 hours
		System ON	3 to 5 hours (depending on system power consumption)

COUNTRY OF ORIGIN

Made in China

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